TUSZKIEWICZ A.R.

EXCERPTA MEDICA Sec.6 Vol.11/3 Internal Med. Mar 57

1492. TUSZKIEWICZ A.R. and SZEWCZYKOWSKI W. Inst. Med. Pracy Wsi, Lublin; II. Klin. Chor. Wewn., Akad. Med., Lublin. *Zmiany stawow krzyzowo-biodrowych w brucelozie. Changes in the sacro-iliac joint associated with brucellosis POL. ARCH. MED. WEWNET. 1955, 25/4a (835-838)

In 50 chronic patients the sacro-iliac joint was submitted to X-ray examination. Clinical symptoms of a lesion of this joint were seen in 10 patients, and were marked in 3. Radiological examination showed complete deformity of both joint spaces as a result of ossification of the synchondrosis (as in Bechterew's disease) in one case; 6 cases showed narrowing of the space and condensation of the bone structure in the vicinity. Brucellin injections caused unmistakable exacerbation of the sacral pain (focal reaction) in a few cases. Inflammation of the sacro-iliac joint is one of the most frequent complications of chronic brucellosis in Poland, which has a mild and asymptomatic course. Tuszkiewicz - Lublin (XX, 6, 9)

EXCERPTA MEDICA Sec. 6 Vol. 11/12 Dec. 57

TUSZKIEWICZ A.R.

7102. TUSZKIEWICZ A. R. and SZEWCZYKOWSKI W. Działu Klin., Inst. Med. Pracy i Hig. Wsi, Lublin. *Obraz kliniczny brucelozy przewlekłej w Polsce. *The clinical picture of chronic brucellosis in Poland POL. TYG. LEK. 1957, 12/10 (341-346) Tables 4

Out of 115 cases 102 showed a chronic course. In Poland, brucellosis is an occupational disease appearing almost exclusively among the veterinary personnel of the health service and among the cattle breeding workers. It has a mild but prolonged course, frequently with scarce symptoms. There are periods of remission lasting several months, during which the patients have no temperature and show only very discrete signs of the disease; its aggravations usually last a short time only. The most frequent discomforts are: articulo-muscular pains, weakening, sweating, pains of the spine and of the sacral region. 95% of those examined had an enlarged liver and 73% an enlarged spleen. 30% of patients had no fever in the course of the disease. Wright's reaction was positive (1:100 or higher) in 71% of cases, doubtful in 17% and negative in 12%; Burnet's reaction was positive in 86%. Positive cultures were obtained in 2 patients only: in one from the blood, and in one from the spinal marrow. Sacro-ileitis was observed in 21 patients, inflammation of the male sex organs in 8; spondylitis in 2 and perisplenitis in 2. Thirty patients recorded in their anamnesis eruptions on the skin of hands after performing manual functions in the reproductive organs of the cows infected by Brucella bacillus. A personal classification of brucellosis is described in the paper including: (1) active brucellosis, (2) inactive brucellosis serologically positive, (3) allergy of the body to the brucella bacillus. (XX, 6)

KOZYR', I.V.; SUVOROVA, P.I.; TSUZMER, A.M.; MARKOV, N.G., redaktor; MAKHOVA, N.N., tekhnicheskiy redaktor.

[Methods of teaching human anatomy and physiology; aid for teachers in secondary schools] Metodika prepodavaniia anatomii i fiziologii cheloveka; posobie dlia uchitelei srednei shkoly. Moskva, Gos. uchebno-pedagog.izd-vo Ministerstva prosveshcheniia RSFSR, 1954. 245 p. (MIRA 8:5)
(Anatomy, Human--Study and teaching)
(Physiology--Study and teaching)

TSUZMER, A.M.

PETRISHINA, O.L., kandidat pedagogicheskikh nauk; TSUZMER, A.M.

Study of the concluding aspect of a zoology course. Est. v shkole no.1:53-62 Ja-F '55. (MLRA 8:3)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V.I. Lenina (for Petrishin). 2. Uchitel'nitsa shkoly No.645 g. Moskvy (for Tsuzmer)

(Zoology--Study and teaching)

TSUZMER, A.M.

Scientific-atheistic training of pupils in lessons on human anatomy and physiology. Est.v shkole no.3:49-56 My-Je '56. (MLRA 9:8)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(Religion) (Anatomy, Human)

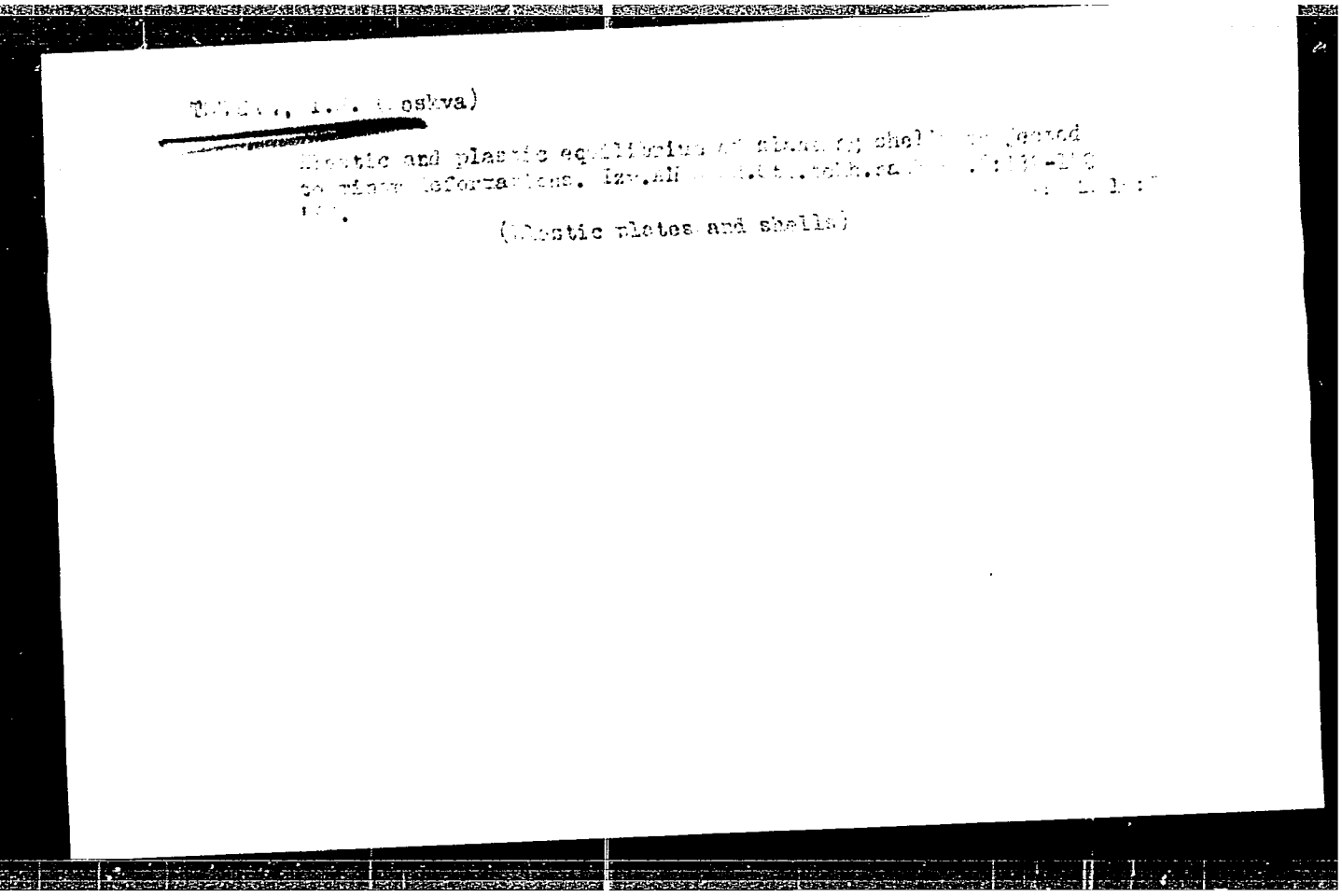
TSUZMER, A.M.

Practical knowledge and skills acquired while studying the organs of blood circulation. Est. v shkole no.5:50-59 '56. (MLRA 9:10)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(BLOOD--CIRCULATION)

TSURKOV, I.S., (Moskva).

Elastic-plastic equilibrium of the shells of revolution subjected to minor axisymmetric deformations. Izv.AN SSSR. Otd. tekh.nauk no.11:106-110 N '56. (MLRA 10:1)
(Elastic plates and shells)



(Elastic plates and shells)

TSUZMER, A.M.

Educative significance of testing the knowledge of biology. Biol. v shkole no.4:33-39 Jl-Ag '63. (MIRA 16:9)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(Biology--Study and teaching)

TSUZMER, A.M.

Lessons on the subject "Metabolism." Biol. v shkole no.1:37-43 '62.
(MIRA 15:1)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(METABOLISM)

TSUZMER, A.M.

Lessons on the topic "Care and hydiene of the U.S.S.R. population."
Biol. v shkole no.2:25-30 Mr-Ap '62. (MIRA 15:2)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(Health education)

TSUZMER, A.M.

Third section of the project of a biology study program for eight-year schools. Biol.v. shkole no.5:16-21 S-O '59.
(MIRA 13:8)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(Anatomy, Human--Study and teaching)
(Physiology--Study and teaching)

TSUZMER, A.M.

Active assimilation of knowledge by students during human anatomy and physiology classes. Biol.v shkole no.3:25-30 My-Je '59. (MIRA 12:9)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(Metabolism--Study and teaching)

TSUZMER, A.M.

A-7

Category: USSR/General Division. Problems of Teaching.

Abs Jour: Referat Zh.-Biol., No 9, 10 May, 1957, 35011

Author : Tsuzmer, A.M.
Inst : not given
Title : Practical Knowledge and Skills Acquired in the Study of the Theme "The Organs of Circulation"

Orig Pub: Yestestvozn. v shkole, 1956, No 5, 50-58

Abstract: No abstract.

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Card : 1/1

KOSHTOYANTS, Khachatur Sergeyevich; TSUZMER, T.S., red.; MALYUKINA, G.A., red.; KISELEVA, A.A., tekhn.red.

[Principles of comparative physiology] Osnovy sravnitel'noi fiziologii. Moskva, Izd-vo Akad.nauk SSSR. Vol. 2. [Comparative physiology of the nervous system] Sravnitel'naia fiziologiia nervnoi sistemy. 1957. 634 p. (MIRA 11:1)

(NERVOUS SYSTEM)

TSUZMER, A.M.

The strive for thorough knowledge. Biol. v shkole no.5:29-34 S-O '57. (MLRA 10:9)

1. Moskovskiy oblastnoy institut usovershenstvovaniya uchiteley.
(Moscow Province--Biology--Study and teaching)

TSUZMER, Moisei Iakovlevich.

Zoology; textbook for the 6th - 7th grades of the secondary schools Izd-11 Moskva, Gos. ucheb.-pedagog. izd-vo, 1944. 223 p.

Cyr.4 Q12

1. Zoology.

TSUZMER, Moisei Iakovlevich

Zoology; textbook for 6th and 7th grade of elementary schools.

Izd. 13 Moskva, Gos. uchebno-pedagog izd-vo, 1946.

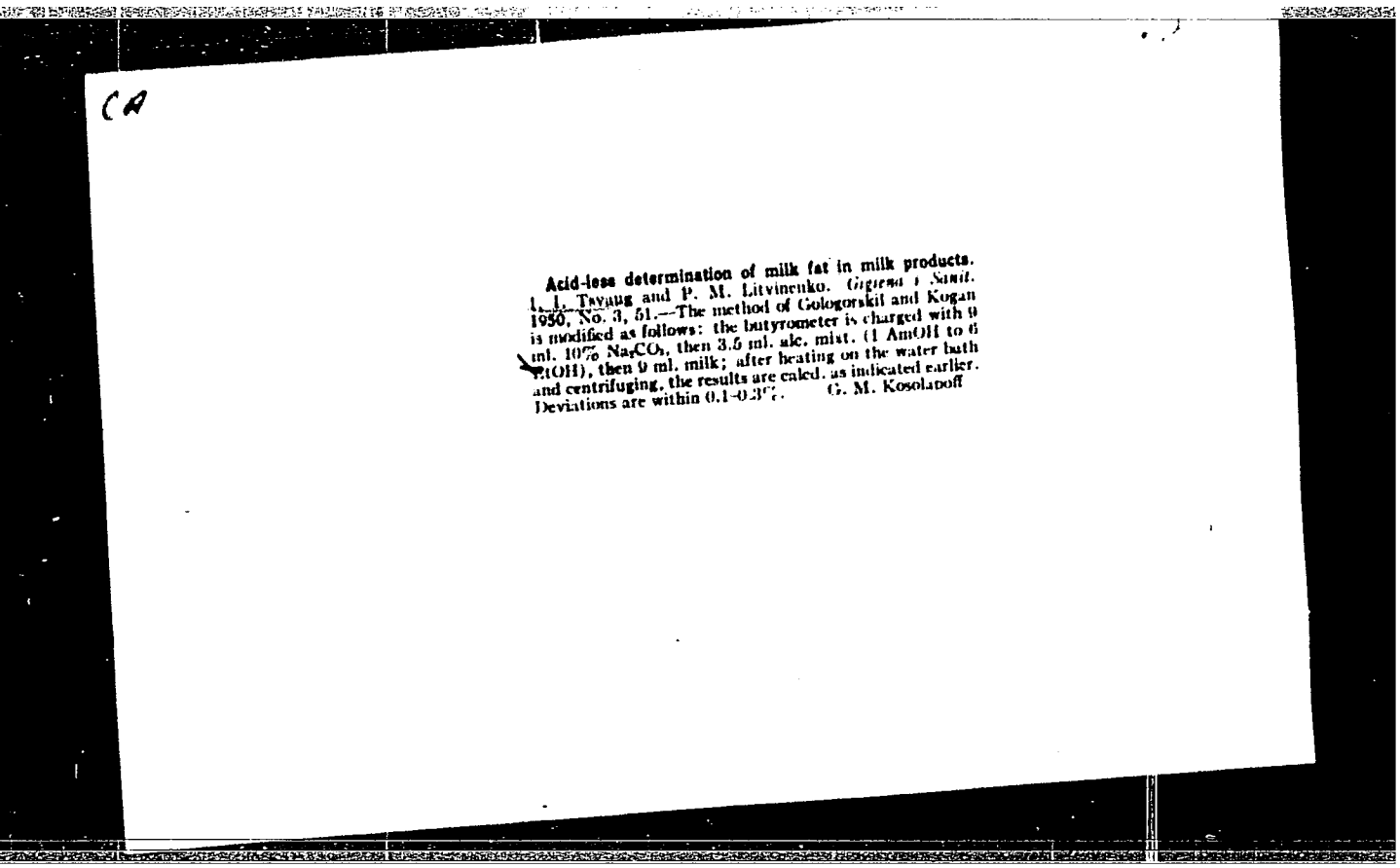
223 p. (52-66740)

QL48.T88 1946

TSUZMER, Moisey Yakovlevich

[Zoology]Zoologiia. Hanover, Ridna Shkola, 1947. 247 p. (MIRA 16:4)

(Zoology)

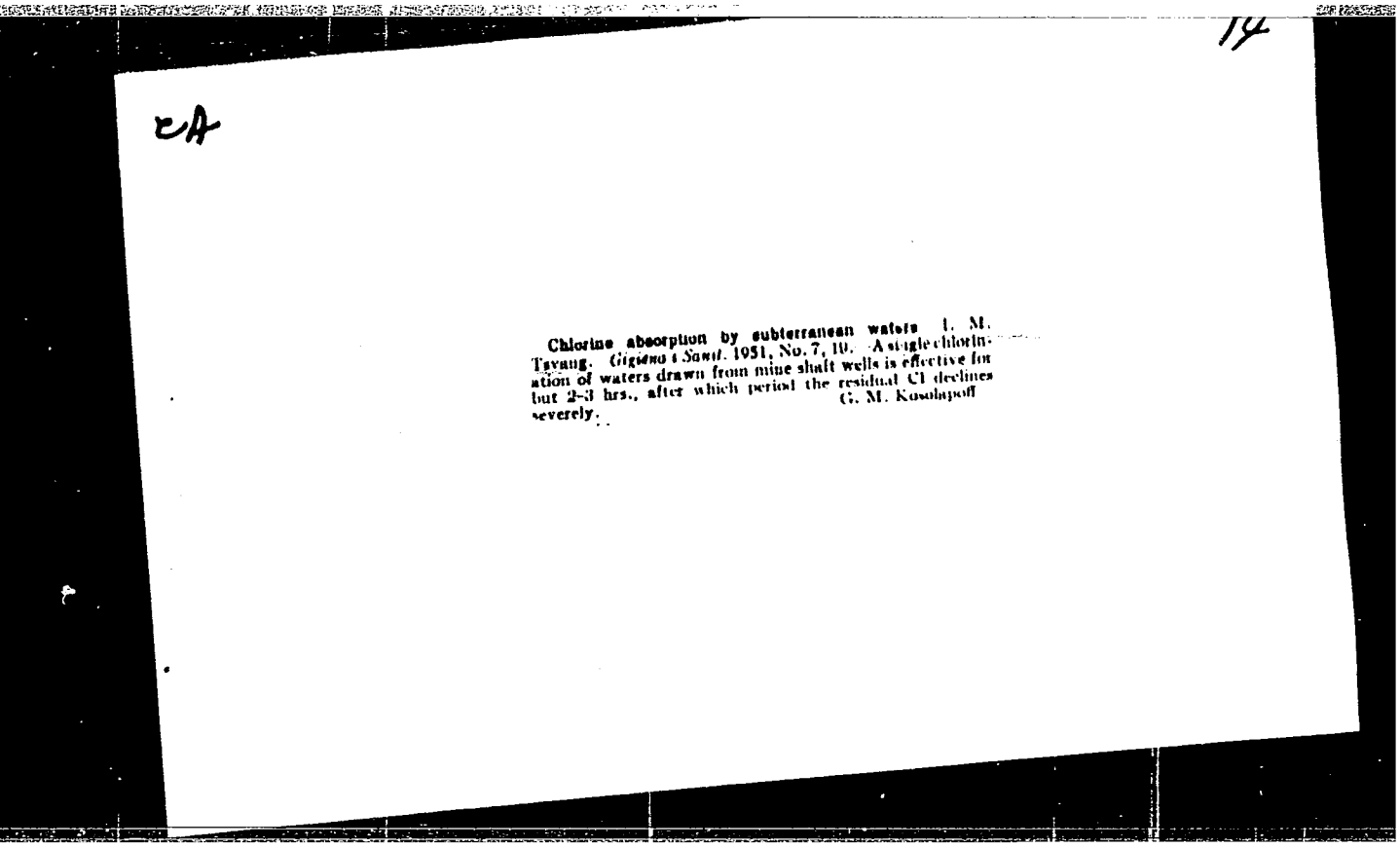


CA

Acid-less determination of milk fat in milk products. I. I. Tsyaug and P. M. Litvinenko. *Gigiena i Sanit.* 1950, No. 3, 51.—The method of Gologorskii and Kogan is modified as follows: the butyrometer is charged with 9 ml. 10% Na_2CO_3, then 3.5 ml. alc. mist. (1 AmOH to 6 EtOH), then 9 ml. milk; after heating on the water bath and centrifuging, the results are calcd. as indicated earlier. Deviations are within 0.1-0.2%. G. M. Kosolapoff

GURFINKEL', Viktor Semenovich; KOTS, Yakov Mikhaylovich; SHIK, Mark L'vovich; KOLPAKOVA, Ye.A., red.; TSUZMER, T.S., red.

[Regulation of human posture] Reguliatsiia pozy cheloveka. Moskva, Nauka, 1965. 255 p. (MIRA 18:6)



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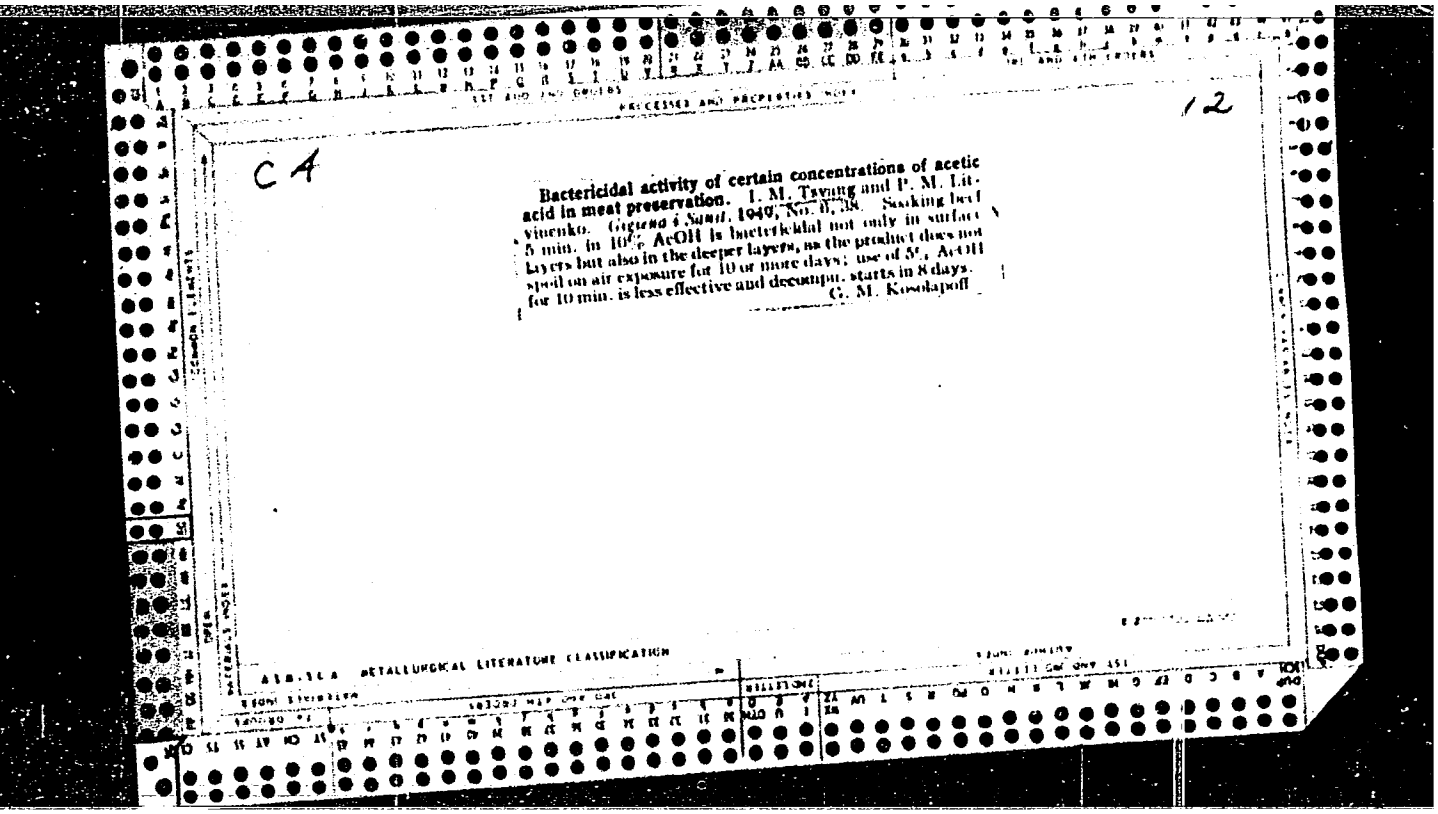
CA

Chlorine absorption by subterranean waters. I. M. Tsyang. *Gigiena i Sanit.* 1951, No. 7, 10. A single chlorination of waters drawn from mine shaft wells is effective for but 2-3 hrs., after which period the residual Cl declines severely. G. M. Kosolapoff

CM

Luminescence analysis in determination of impurities in foods. I. M. Tavung and Boshnyakov. *Gigiena i Sanit.* 1950, No. 1, 44–8.—Natural fruit juices give no fluorescence in ultraviolet irradiation; addn. of artificial flavorings or colors produced such fluorescence. Vinegar made from grape fermentation gives pale blue color; that from tar distn. is brown-gray. H_2SO_4 gives grayish color, while HCl in vinegar gives a gray-brown color. Mineral oils have bluish colors; vegetable oils have blue-green, or bright blue (poppyseed oil). Molten cattle fat gives no color, as does lard and sheep fat; butter gives bright yellow while margarine gives clear blue color. Seeds treated with chemicals give the following colors: $CuSO_4$ gives blue color, Paris green gives violet color; oats give color only at the grain tips. Wheat and rye flour give bluish color (latter is lighter); pea and bean meals give pink and blue-green, resp.; ergot gives a fluctuating violet fluorescence.

G. M. Kosolapoff



12

C A

Bactericidal activity of certain concentrations of acetic acid in meat preservation. I. M. Tsyang and P. M. Litvinenko. *Gigiena i Sanit.* 1940, No. 8, 38. Soaking beef 5 min. in 10% AcOH is bactericidal not only in surface layers but also in the deeper layers, as the product does not spoil on air exposure for 10 or more days; use of 5% AcOH for 10 min. is less effective and decomposition starts in 8 days.
G. M. Kosolapoff

TSVANG, I.M.

Large-scale vitaminization of food products for mass consumption. Ver. pit. 22 no.3:93-94 My-Je '63. (MIRA 17:8)

TSVANG, I.M., kand.med.nauk (Moskva)

Vitamins in human nutrition. Fel'd.i akush. 27 no.7:31-34 Jl '62. (MIRA 15:9)

(VITAMINS) (NUTRITION)

TSVANG, Kh.G.

Singular points of a different equation of the first order with delay. Trudy Sem. po teor. diff. urav. s otklon. arg. 2:172-182 '63. (MIRA 18:2)

TSVANG, Kh.G.

Singular points of differential equations with retarding arguments. Uch.zap.Mosk.un. no.186[a]:211-218 '59.
(MIRA 13:6)

(Differential equations)

AUTHOR: Tsvang, Kh. G.

TITLE: On the singular points of a differential equation with lagging argument

PERIODICAL: Referativnyy zhurnal, Matematika, no. 5, 1961, 34, abstract 5B167. (Uch. zap. MGU, 1959, vyp 186, 217 - 218)

TEXT: Considered is the equation

$$y'(x) = \frac{ax + by(x - \Delta_1(x))}{cx + dy(x - \Delta_2(x))}, \quad \Delta_1(x) \geq 0, \quad \Delta_2(x) \geq 0. \tag{1}$$

A singular point (x,y) of a fixed solution $y(x)$ is defined as a point lying on the curve $y(x)$ such that in this point the numerator and the denominator of the right hand of (1) vanish simultaneously. The point $x = 0$ is taken as the initial point. It is assumed that $x - \Delta_1(x) \geq 0$ and $x - \Delta_2(x) \geq 0$ for $x \geq 0$. In this case the initial set consists of the one point $x = 0$, $y = 0$, and the point $(0,0)$ is singular for every solution of (1) which passes through. The characteristic equation of (1) is written down, and the case is considered, where it has pure imagi-

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On the singular points of a ...

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nary roots under the additional assumption $b = 0$. In this case (1) can be brought to

$$y'(x) = -a_1^2 \frac{x}{y(x - \Delta_2(x))} \tag{2}$$

and possesses the following types of solutions.

I. The solution $y(x)$ starts in the point $(0,y_0)$, $y_0 \geq 0$, decreases monotonously and becomes 0 in the point x_1, where $y'(x_1) = -\infty$. As (2) also possesses the solution $-y(x)$ with the solution $y(x)$, the solution of this type is an analogue of the corresponding equation

TSVANG, L. R.

TSVANG, L. R. "The Impulse Measurement of the Spectrum of Light Ions in the Atmosphere." Inst of Applied Geophysics, Acad Sci USSR. Moscow, 1956. (Dissertation for Degree of Candidate in Physicomathematical Sciences)

So: Knizhnaya Letopis', No. 17, 1956.

TSVANG, L. R.

60 I. Impulse method of measurement of spectrum of simple ions in the atmosphere. L. R. Tsvang. *Izvest. Akad. Nauk S.S.S.R., Ser. Geofiz.* 1958, No. 2, 202–9.—A new method for measurement of spectrum of ions in the atm. is described. The theory of the method for flat and cylindrical condensers is given, and there is a brief description of app. used for the measurements. Gladys S. Macy

GURVICH, A. S. and TATARSKIY, V. I. and TSVANG, L. R.

"Experimental Study of Twinkling of a Light Source Situated on the Earth's Surface."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 4 Jun 59.

AUTHORS: Tsvang, L.R. and Gutman, L.N. SOV/49-58-7-7/16

TITLE: The Measurement of the Light Atmospheric Ion Spectrum (Izmereniye spektra legkikh atmosfernykh ionov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, pp 891 - 902 (USSR) no 7,

ABSTRACT: A new impulse method of measuring the spectrum of light ions in the atmosphere has been worked out at the Akademiya nauk SSSR Institut prikladnoy geofiziki (Institute of Applied Geophysics) (Refs 1, 2). A cylindrical ion chamber takes a sample of air and then has a constant intensity applied to an external electrode. This produces an ionic current which dies away with time as the ions reach the electrode. Measurements at different times give the ionic spectrum from the current. As is shown in Ref 2, the current flowing through the central electrode is given by Eqs.(1) and (2), where $I_+(t)$ and $I_-(t)$ are the currents at the central electrode for positive and negative intensities on the external cylinder; $n_+(\omega)$ and $n_-(\omega)$ are the density distributions of the positive and negative ions; A, B, a_1, a_2, b_1, b_2 are constants

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determining the parameters of the chamber and the potential on the external cylinder; t is the time, calculated from the moment that the field appears. a_1, a_2, b_1, b_2, B, ω and t are connected by the relations:

$$B = \frac{a_1 b_1 - a_2 b_2}{a_1 + a_2}, \quad \omega t = B .$$

Eqs.(1) and (2) are two interdependent integral equations and the authors now wish to go over to two independent, integral equations. Eqs.(1) and (2) are added and dimensionless variables (4) are substituted (5) . The resultant equation cannot be solved exactly but since $M(\eta)$ is a monotonic bounded function it can be represented approximately by the sum of two exponentials (7). $f(\tau)$ is then obtained explicitly (8) differentiated twice and combined to give finally $\psi(\tau)$ (10). With a chamber having internal and external electrodes of radii 2 cm and 10 cm and length 70 cm (Ref 2), Eq.(11) is obtained

The Measurement of the Light Atmospheric Ion Spectrum

($f''(\tau)$ is of much less significance in these equations than $f(\tau)$ of $f'(\tau)$). Eq.(12) gives the final equations in terms of $n(t)$ and Eqs.(14) and (15) in terms of $n_+(t)$ and $n_-(t)$. The factors I, I' and I" in these equations are obtained from the oscillograph traces. Owing to fluctuations, all three (and especially the latter two) may be inaccurate, so it is necessary to smooth out the curves. Figure 1 shows the original and the smoothed curves.

In order to simplify the calculations, (14) and (15) are replaced by (18) and (19), which divide the ionic current up into positive and negative parts. The current derivatives are obtained from Eqs.(20) and (21). On making the necessary substitutions, Eq.(26) is obtained for calculating the density distribution of the positive ions and (27) for the negative ions. The coefficients in (26) and (27) are tabulated and the calculations are made by a method indicated in Figure 2 - a paper strip has the value for the current I_k at a time t_k printed on it; this is placed over the table and the corresponding coefficients read off.

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The Measurement of the Light Atmospheric Ion Spectrum

The major error in the results occurs in working out the oscillogram traces: the apparatus errors for n, $\bar{\omega}$ and σ^2 (ion concentration, average mobility, dispersion of spectrum) are about 2% and in the graphical solution about 7%, 2% and 5.5%, respectively. The impulse method is restricted to light ions as the current for heavier ions becomes too small to be measureable.
This apparatus was used in 1955 in an aeroplane (type IL-12). An indication of the layout is given in Figure 5. Great efforts were made to cut down the effects of vibration since this has considerable influence on the oscillograph traces. (The oscillograph chosen was of type POB-12.) Samples of air were taken in through the opening 4 and along the pipes to the chamber 1. The chamber took 1-2 secs to fill with air and a similar length of time was required for measurement of the ion current.
On the Elbruz expedition, measurements were made at the Terskol observatory and station (stations round Terskol which gather meteorological data are shown in Figure 6). The aim was to find the dependence of cloud development on the light ion spectrum. During 1952-53, 500 measurements

The Measurement of the Light Atmospheric Ion Spectrum

were made at Terskol observatory and 38 on Mount Terskol. The results of September 9, 1953 are particularly interesting. All the meteorological conditions (temperature, humidity, pressure, speed and direction of wind, precipitation) were approximately constant. Figures 7a and b show the variation with time of the ion spectrum - as clouds started to cover the mountain the concentration of positive and negative ions started to fall and continued to do so while the clouds thickened; the clouds then began to clear away and the ion concentration correspondingly rose. It is characteristic that the decrease in ion concentration was accompanied by an increase in average mobility. Norinder and Siksna have suggested an explanation for this (Ref 4).
These data were confirmed by measurements made when the observatory lay under clouds in which the station itself was situated (Figures 8a and 8b and the table). The graphs indicate that clouds over the station produced a decrease in both positive and negative ions and an increase in the average mobility. It is characteristic that for $\omega_+ > 1.6$ $cm^2/v.sec$ and $\omega_- > 1.9$ $cm^2/v.sec$ the spectrum for both

cases practically coincides.
The concentration of negative ions changes less than the positive ion concentration after precipitation, whilst the opposite is true when the station is situated in the clouds. On days on which the cloud cover is small, the concentration of both kinds of ions increases. The average, absolute humidity on such days is 8.5 g/cm^3 (as compared with 10.1 g/cm^3 on cloudy days): this change may explain the increase in $N_{\pm}$.

There are 8 figures and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki atmosfery (Ac.Sc.USSR, Institute of Atmospheric Physics)

SUBMITTED: July 2, 1957

1. Ionic current--Measurement 2. Ionic current--Spectra 3. Ionization chambers--Applications 4. Mathematics--Applications

24(4), 3(7) SOV/20-123-4-22/53

AUTHORS: Gurvich, A. S., Tatarskiy, V. I., Tsvang, L. R.

TITLE: Experimental Investigation of the Statistical Characteristics of the Scintillation of a Terrestrial Source of Light (Eksperimental'noye issledovaniye statisticheskikh kharakteristik mertsaniya nazemnogo istochnika sveta)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 4, pp 655-658 (USSR)

ABSTRACT: If the fluctuation of the refraction index n of a medium obeys the "2/3-law"

$$\overline{\left[n(\vec{r}+\vec{\varrho}) - n(\vec{r})\right]^2} = C_n^2 \varrho^{2/3}$$

and the conditions $\lambda \ll l_0$, $\lambda^3 L \ll l_0^4$, $l_0 \ll \sqrt{\lambda L} \ll L_0$, $C_n^2 L l_0^{-1/3} \ll 1$, the following conclusions may be drawn from the present theory. (C_n^2 denotes a constant quantity depending on grad $\bar{n}$ and on the characteristics of turbulence, l_0 and L_0 - the internal and external scales of turbulence respectively, λ - the wave length, L - the distance covered by the wave in the turbulent medium). 1) The intensity fluctuations of

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Experimental Investigation of the Statistical Characteristics of the Scintillation of a Terrestrial Source of Light

light are distributed according to a logarithmically normal law. 2) For the dispersion of the intensity I of the light wave the formula $\sigma^2 = \overline{\left[\ln I - \overline{\ln I}\right]^2} = 10.5\, C_n^2\, \lambda^{-7/6} L^{11/6}$ applies, and herefrom it follows that $\sigma^2 \sim L^{11/6}$. 3) The correlation function B_I of the fluctuations of the intensity logarithm of light in the plane which is vertical to the beam depends on $\varrho/\sqrt{\lambda L}$: $B_I = B_I\left(\frac{\varrho}{\sqrt{\lambda L}}\right)$.

Here ϱ denotes the distance between the points of observation and the correlation scale (masshtab korrelyatsii) is of the order $\sqrt{\lambda L}$. 4) A function is given for the fluctuation frequency spectrum. All these regularities were experimentally checked 1956-57 over a very flat area of the steppe in the Tsimlyansk district. Together with measurements of flickering, the mean temperature, the wind velocity in 0.5; 1; 2; 4; 8 and 12 m, and also the direction of the wind were measured.

Experimental Investigation of the Statistical Characteristics of the Scintillation of a Terrestrial Source of Light

Measuring results: Ad 1) About 100 empirical distribution functions were investigated. They all show satisfactory agreement with the hypothesis of the logarithmically normal distribution law of I. By using this law it is possible to express the quantity σ^2 by experimentally observed quantity. Ad 2) The simplest method of reducing observation data to equal meteorological conditions is that of averaging all values of σ^2 obtained in the case of given L and different meteorological conditions. The dependence of the quantity σ^2 on the distance L corresponds satisfactorily to the theoretical relation $\sigma^2 \sim L^{11/6}$. Ad 3) In the case of varying L, the values of the correlation coefficient R agree well with one another. The results obtained by the present paper confirm the similarity law $R=R(\varrho/\sqrt{\lambda L})$. Ad 4) About 80 frequency spectra were evaluated at L = 1000 m and L = 2000 m. Also the results obtained by these investigations supplied additional confirmation of the similarity law. Summarizingly, it may be said that the data obtained in the present paper agree satisfactorily with the initially formulated main conclusions of the theory. There are 4 figures, 1 table, and 15 Soviet references.

SOV/2o-123-4-22/53

Experimental Investigation of the Statistical Characteristics of the Scintillation of a Terrestrial Source of Light

ASSOCIATION: Institut fiziki atmosfery Akademii nauk SSSR
(Institute of the Physics of the Atmosphere of the Academy of Sciences, USSR)

PRESENTED: July 17, 1958, by N. N. Andreyev, Academician

SUBMITTED: July 17, 1958

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A001/A101

3.5140

AUTHORS: Bovsheverov, V. M., Gurvich, A. S., Tatarskiy, V. I., Tsvang, L. R.

TITLE: Devices for statistical analysis of turbulence

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 9, 1961, 29, abstract 9A237 ("Tr. Soveshchaniya po issled. mertsaniya zvezd", 1958, Moscow-Leningrad, AN SSSR, 1959, 26-33, Discuss., 60-62)

TEXT: The laboratory of atmospheric acoustics of IFA, AS USSR, has constructed a set of devices for statistical analysis of turbulence in the Earth's atmosphere: 1) spectrum analyzer, designed on the principle of parallel storing of the signal on 30 filters located in the frequency range 0.05 - 1,000 cps with separation between the neighboring filters being half an octave (a special photoelectrical gage was developed for calibrating the analyzer), 2) an analyzer for measuring the function of probability distribution of light intensity fluctuations; it functions also on the principle of parallel storing and rapid consecutive inquiry (integrated distribution function is measured; the voltage being investigated is supplied to the modulator, further to 25 discriminators with different potentials of unlocking, and after amplification to the storing

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Devices for statistical analysis of turbulence

elements; 3) correlation meter ("korrelometr") which represents a circuit for multiplying two voltages. To make the operation of the device more stable, the system has been selected in which each of the signals being multiplied acts upon different parameters of the output signal, the spacing and amplitude of the pulses. Block-diagrams of all devices are presented and principles of their operation are described. The equipment developed made it possible to obtain reliable material which calls, for final results, for comparatively little processing.

L. Zhukova

[Abstracter's note: Complete translation]

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A005/A001

Translation from: Referativnyy zhurnal, Geofizika, 1961, No. 2, pp. 20-21, # 2B158

AUTHORS: Gurvich, A. S., Tatarskiy, V. I., Tsvang, L. R.

TITLE: The Scintillation of Terrestrial Light Sources

PERIODICAL: Tr. Soveshchaniya po issled. mertsaniya zvezd, 1958. Moscow-Leningrad, AN SSSR, 1959, pp. 33-46. Discuss., pp. 60-62

TEXT: Results are described of an experimental study of the fluctuations of the intensity of light J which propagates in the undermost layer of the atmosphere. Measurements of the functions of the distribution of fluctuation probabilities showed that the magnitude of J is distributed logarithmically normal. The experimental correlation

$$\sigma_J^2 = \overline{[\ln J - \overline{\ln J}]^2} = f(L),$$

where L is the distance between the light source and the observation point, agrees well with the theoretical correlation $\sigma_J^2 \sim L^{11/6}$. The measured radii of the correlation of fluctuations J proved to be equal to $1.6\sqrt{\lambda L}$ (for values of $\sqrt{\lambda L}$ from 1.6 to 3.2 cm), which well agrees with the theory with an accuracy up to a

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The Scintillation of Terrestrial Light Sources

numerical factor. The experimental frequency spectra W(f) of the fluctuations J are well described by the expression $fw(f) = F\left(\frac{f\sqrt{\lambda L}}{v_\perp}\right)$, where $v_\perp$ is the component of the wind velocity perpendicular to the ray. The form of the function F is near the theoretical one, but differs from the latter by some details.

V. I. T.

Translator's note: This is the full translation of the original Russian abstract.

AUTHORS: Tsvang, L. R. and Komarov, N. N. SOV/49-59-8-9/27

TITLE: Investigation of the Spectrum of Simple Ions in the Free Atmosphere

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 8, pp 1167-1176 (USSR)

ABSTRACT: The results are given of a method of measurement of the spectrum of simple ions in the free atmosphere. The measurements were carried out from an aircraft flying at heights of 100 to 5000 m. Simultaneously the electric field, the air temperature and the atmospheric pressure were determined. The apparatus employed is shown in Fig 1, where 1 and 3 - high voltage electrodes, 2 and 4 - collectors, 5 - shell; the amplifiers and an oscillograph are shown on the right-hand side. The position of the apparatus on the aircraft is shown in Fig 2. The concentration of ions, N, the mean mobility $\bar{\omega}$ and the polar air conductivity $\lambda^{\pm}$ were calculated from the formulae on pp 1170-1171. The results are plotted in the graphs 3 to 8 which represent the following: Fig 3a and b and Fig 4 - mean spectra of simple ions on bright days, all days and at heights of 500 to 4500 m, respectively;

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SOV/49-59-8-9/27

Investigation of the Spectrum of Simple Ions in the Free Atmosphere

Fig 5 - variation of ion spectrum characteristics in relation to height;
Fig 6 - mean mobility $\bar{\omega}$ in relation to height (thin lines - experimental data, thick lines - theoretical data);
Fig 7 - relationship between $\bar{\omega}$ and N during climb (a), descent (b);
Fig 8 - spectrum characteristics on cloudy (dashed lines) and cloudless (continuous lines) days.
There are 8 figures and 12 references, 7 of which are Soviet, 1 German and 4 English.

ASSOCIATION: Akademiya nauk SSSR Institut prikladnoy geofiziki (Institute of Applied Geophysics, Ac.Sc., USSR)

SUBMITTED: October 28, 1958

Card 2/2

SOV/20-125-6-18/61

24(8),3(7)
AUTHORS: Bovsheverov, V. M., Gurvich, A. S., Tsvang, L. R.

TITLE: Direct Measurements of a Turbulent Flow of Heat in the Lowest Layer of the Atmosphere (Pryamyye izmereniya turbulentnogo potoka tepla v prizemnom sloye atmosfery)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 6, pp 1242-1245 (USSR)

ABSTRACT: The authors first refer to several earlier papers dealing with this subject. The acoustic laboratory of the Institut fiziki atmosfery AN SSSR (Institute for the Atmospheric Physics of the AS, USSR) developed a new method for the direct measurement of the turbulent heat flow. The general measurement scheme is shown by a schematical drawing. The pulsations of the vertical component of the wind velocity W' were measured by means of an acoustic microanemometer, which is described in detail. The acoustic scheme prevents measurements of wind velocity from being influenced by temperature pulsations. Temperature fluctuations were measured by means of a resistance thermometer, the primary element of which consisted of a 20-micron platinum wire of 20 mm length. This wire was connected to a bridge

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circuit. The time constant of such a primary element is of the order of magnitude 0.01 sec. The maximum sensitivity of the thermometer is 0.15°C and the amplitude characteristic (for the pulsations) is within ± 2° linear. The voltages U_1 and U_2 at the output of the microanemometer and the resistance thermometer respectively are proportional to the momentary values of the vertical component of the wind velocity $U_1 = k_1 W'$ and to the temperature pulsations $U_2 = k_2 T'$. These voltages are then applied to two input contacts of a correlometer. The amperage I at the output of this electronic device is then proportional to the product $I = k_3 \overline{U_1 U_2}$, averaged with respect to time, of the two voltages applied. This amperage is then measured by means of an indicator device, the scale of which can be calibrated for the values of the turbulent heat flow. The heat flow was measured alternatingly in heights of 1 and 4 m (360 measurements in 1m height and 80 in a height of 4 m). Averaging extending over a period of 100 seconds is insufficient, for it is necessary to average over a period of 10 minutes. By comparing

the correlation coefficients with the corresponding Richardson numbers it may be seen that with increasing instability ($Ri \rightarrow -\infty$) also the correlation $W'T'$ increases. There are 4 figures and 5 references, 4 of which are Soviet.

ASSOCIATION: Institut fiziki atmosfery Akademii nauk SSSR (Institute for the Physics of the Atmosphere of the Academy of Sciences, USSR)

PRESENTED: January 20, 1959, by A. A. Dorodnitsyn, Academician

SUBMITTED: January 19, 1959

HLANTER, Solomon Grigor'yevich. Prinimali uchastiye: ZHADIN, K.P.; TSVANG, L.R.. KORNDORF, S.F., red.; BORUNOV, N.I., tekhn.red.

[Radio engineering and electronics] Radiotekhnika i elektronika. Moskva, Gos.energ.izd-vo, 1960. 415 p. (MIRA 13:7)
(Radio) (Electronics)

S/049/60/000/008/012/015
E201/E191

AUTHOR: Tsvang, L.R.

TITLE: Measurement of the Frequency Spectra of Temperature Fluctuations in the Lowest Layer of the Atmosphere

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No. 8, pp.1252-1262

TEXT: One of the important characteristics of atmospheric turbulence is the microstructure of the temperature field. The author describes measurements of the temperature fluctuation spectra (fluctuation magnitude v. fluctuation frequency) carried out with a fluctuation microthermometer and a low-frequency analyser in 1958 at the Laboratory of Atmospheric Acoustics, Institute of Atmospheric Physics, AS USSR. A fluctuation microthermometer was a modified version of a resistance thermometer and differed from other instruments of the same type by being able to record automatically and continuously the mean air temperature. The instrument was sufficiently sensitive even when the air temperature varied quite considerably and there was no need to make adjustment of the "null" position of the instrument. Fig.1 shows

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Measurement of the Frequency Spectra of Temperature Fluctuations in the Lowest Layer of the Atmosphere

the block circuit of the microthermometer. Temperature fluctuations T' caused changes of the resistance r_1 which formed part of an alternating-current bridge. The out-of-balance voltages, proportional to temperature fluctuations, were amplified and measured with a synchronous detector. Then these fluctuations passed through a negative feedback circuit to a heater (2 in Fig.1) of a thermistor (1) connected to one of the bridge arms. The negative feedback circuit included an integrating RC section so that the heater current was proportional to the out-of-balance voltage averaged out over a period of 80 sec. Slow changes of temperature, provided they were sufficiently large, produced smooth variations of the heater current and consequently smooth variations of the thermistor resistance. In this way the bridge was automatically rebalanced. Rapid temperature fluctuations did not affect the heater current and were recorded as voltage fluctuations. Fig.1 shows the following parts of the circuit: the amplifier (3), the negative feedback circuit (4), the RC section (5), and the

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E201/E191

Measurement of the Frequency Spectra of Temperature Fluctuations in the Lowest Layer of the Atmosphere

synchronous detector (6). Fig.2 shows a complete circuit of the microthermometer. A low-frequency analyser (the circuit is shown in Fig.3) had 30 channels with RC filters. The voltages analysed were recorded with an electronic potentiometer ЭПП(EPP). The analyser sensitivity amounted to 0.4-1.0 V which represented maximum deflection of the potentiometer. The range of frequencies which could be analysed was 0.05-1160 c/s. Fig.4 shows a frequency characteristic of one of the analyser channels. The apparatus described was used to measure temperature fluctuations at heights of 1 and 4 m above an open steppe. The apparatus and the operating personnel were all in an underground chamber in order to avoid interference with natural conditions. The only parts above the ground were the thermometer resistors (r_1). The measurements were averaged out over a period of 10 min. In addition to measurements of temperature fluctuations the author measured the vertical distributions of temperature and wind velocity between 0.5 and 12 m (gradient measurements). From these gradient observations the Richardson numbers (Ri) were calculated.

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S/049/60/000/008/012/015
E201/E191

Measurement of the Frequency Spectra of Temperature Fluctuations in the Lowest Layer of the Atmosphere

The spectra of temperature fluctuations were divided into groups according to their Richardson number (Table 1). The temperature fluctuation spectra are shown in Figs 5-7 as recorded (Fig.5A) and re-plotted in non-dimensional form (Figs 5B, 6 and 7). Fig.8 gives the dependence of the energy of temperature fluctuations on the fluctuation frequency. Fig.9 gives a ratio T_m/σ_T as a function of Ri; here T_m is the variation of temperature with height above the ground, and σ_T is the r.m.s. value of temperature fluctuations at a fixed point. Comparison of the gradient measurements with local temperature fluctuations confirmed the theory of similarity and the hypothesis of "frozen turbulence" in temperature fluctuations. The "law of two-thirds" (Ref.10) for spatial distribution of temperature fluctuations was confirmed in a wide range of Richardson numbers (Table 2, Fig.10). There are 10 figures, 2 tables and 11 references: 8 Soviet and 3 English.

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S/049/60/000/008/012/015
E201/E191

Measurement of the Frequency Spectra of Temperature Fluctuations in the Lowest Layer of the Atmosphere

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki atmosfery (Physics of the Atmosphere Institute, AS USSR)

SUBMITTED: February 23, 1960

Card 5/5

GURVICH, A.S.; TSVANG, L.R.

Spectral composition of a turbulent heat flow. Izv.AN SSSR.Ser. geofiz. no.10:1547-1548 O '60. (MIRA 13:9)

1. Akademiya nauk SSSR, Institut fiziki atmosfery.
(Atmospheric temperature)
(Atmospheric turbulence)

TSVANG, L.R.

Measuring spectra of temperature pulsations in the free atmosphere. Izv. AN SSSR. Ser.geofiz. no.11:1674-1678 N'60. (MIRA 13:11)

1. AN SSSR, Institut fiziki atmosfery.
(Atmospheric temperature)

S/506/62/000/004/002/005
E032/E314

3.5800

AUTHORS: Bovsheverov, V.M., Gurvich, A.S., Mordukhovich, M.I. and Tsvang, L.R.

TITLE: Instruments for the determination of temperature and wind-velocity pulsations and for the statistical analysis of experimental data

SOURCE: Akademiya nauk SSSR. Institut fiziki atmosfery. Trudy. no. 4. 1962. Atmosfernaya turbulentnost'. 21 - 29

TEXT: This is a review of instruments developed at the Institut fiziki atmosfery AN SSSR (Institute of Physics of the Atmosphere of the AS USSR). They include acoustic anemometers for the determination of pulsations of wind-velocity components (V.M. Bovsheverov - Izvestiya Akademii nauk SSSR, Seriya, geofiz., no. 6, 1960; A.S. Gurvich - Akust. zh., no. 3, 1958), acoustic converters developed to eliminate errors associated with the formation of a zone of reduced velocity in the wind shadow of acoustic converters (V.M. Bovsheverov - Vestn. AN SSSR, no. 9, 56-60, 1961), acoustic thermometers based on the known relationship between the velocity of sound and temperature (M.I. Mordukhovich -

Card 1/2

L 42894-66 EWT(1) GW

ACC NR: AP6030078 SOURCE CODE: UR/0362/66/002/008/0786/0803

AUTHOR: Mordukhovich, M. I.; Tsvang, L. R.

ORG: Institute of the Physics of the Atmosphere, Academy of Sciences SSSR (Akademiya nauk SSSR. Institut fiziki atmosfery)

TITLE: Direct measurements of turbulent fluxes at two heights in the surface boundary layer of the atmosphere

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 8, 1966, 786-803

TOPIC TAGS: atmospheric ~~boundary layer~~ temperature, surface boundary layer, atmospheric turbulence, ~~turbulent heat flux~~, ~~wind stress~~, ~~acoustic~~ anemometer, microthermometer, atmospheric wind field

ABSTRACT: The 1964 Aerophysical Expedition of the Institute of the Physics of the Atmosphere, Academy of Sciences USSR, carried out experiments in a 600 x 900-m grassy steppe area near Tsimlyansk to determine the validity of the hypothesis that in the surface boundary layer of the atmosphere the turbulent heat flux and shearing stress τ are constant with height when the atmospheric layer is stationary and horizontally homogeneous, without vertical radiational flux divergences. Special equipment used in the study consisted of a single set of instruments (two acoustic anemometers and a pulse-time microthermometer) installed laterally on a mast at heights of 1 and 4 m above the ground. An underground shelter located 5 m west of the mast housed the pulsation recording equipment and the observer. Pulsed measurements (direct measure-

Card 1/2 UDC: 551.551.8

L 42894-66

ACC NR: AP6030078 O

ments of q and τ, and the dispersions of the vertical and horizontal components of wind speed and of temperature--δ_w^2, δ_u^2, δ_t^2), were supplemented by measurements of the mean temperature and wind-speed profiles determined from a 12-m mast erected 70 m away from the other mast. Instrument calibrations and tests of the frequency characteristics of the apparatus indicated that turbulent heat fluxes and stresses at both heights could be measured without significant distortion and that $\Delta q/q$ and $\Delta\tau/\tau$ measurements considerably exceeded any possible procedural errors. Data collected during the study also made it possible to determine a number of universal relationships and to compute the values of several universal constants simultaneously. Notable variations with height were definitely detected; they were attributed to horizontal inhomogeneities in the mean wind and temperature fields. Orig. art. has: 12 figures, 8 formulas, and 2 tables. [ER]

SUB CODE: 04/ SUBM DATE: 21Mar66/ ORIG REF: 010/ OTH REF: 005/ ATD PRESS: 5068

Card 2/2

ACC NR: AP7001887 SOURCE CODE: UR/0362/66/002/012/1307/1310

AUTHOR: Zubkovskiy, S. L.; Tsvang, L. R.

ORG: Institute of Atmospheric Physics, Academy of Sciences, SSSR (Akademiya nauk SSSR, Institut fiziki atmosfery)

TITLE: On horizontal turbulent flow of heat

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 12, 1966, 1307-1310

TOPIC TAGS: lower atmosphere, atmospheric thermodynamics, atmospheric turbulence, atmospheric temperature, meteorologic instrument

ABSTRACT: A study to determine the universal function $q_h/q_v = f(Ri)$ (where q_h and q_v are horizontal and vertical heat flow in the surface layer of the atmosphere, Ri is the Richardson number) is described. The horizontal and vertical components of heat flow were measured near Tsimlyansk during June--July 1965 at heights of 1 and 4 m above the ground with transducers; acoustic anenometers were used to measure the horizontal and vertical variations of the wind velocity and resistance and micro-thermometers were used to measure the temperature changes. The frequency range of the transducers was from 0 to 100 cps. A total of 120 series of measurements were made which lasted a total of about 120 hours. The quantity q_h was found larger than q_v; on the average, the ratio q_h/q_v varied from -3.2 to -1.4 for different strati-

Card 1/2 UDC: 551.551.8

ACC NR: AP7001887

fication conditions. During the day, when q_v had an upward direction, q_h had an opposite direction to that of the average wind velocity; when the sign of q_v changed, the sign of q_h also changed, which accounts for the negative sign of the q_h/q_v ratio. In conclusion, the authors express their gratitude to Ya. M. Yagloma for valuable comments, and to T. K. Kravchenko and A. V. Firsov who participated in the experiment and in processing the results. Orig. art. has: 3 figures.

SUB CODE: 04/ SUBM DATE: 15Sep66/ ORIG REF: 004

Card 2/2

TSVANG, L.R.

Some characteristics of the spectra of temperature pulsations in an atmospheric boundary layer. Izv. [redacted]SSR. Ser. geofiz. no.10: 1594-1600 O '63. (MIRA 16:12)

1. Institut fiziki atmosfery AN SSSR.

TSVANG, L.R.; ZUBKOVSKIY, S.L.; IVANOV, V.N.; KLINOV, F.Ya.; KRAVCHENKO, T.K.

Measurement of some characteristics of turbulence in the lower 300 meters of the atmosphere. Izv. AN SSSR Ser. geofiz. no.5:769-782 My '63. (MIRA 16:6)

1. Institut fiziki atmosfery AN SSSR.
(Atmospheric turbulence)

TSVANG, L. R. /

MONIN, A. S., and TSVANG, L. R.,

"On structure of turbulence in the low troposphere"

Report bo be submitted for the 13th General Assembly, Intl. Union of Geodesy and Geophysics (IUGG), Berksley Calif., 19-31 Aug 63

BOVSHEVEROV, V.M.; GURVICH, A.S.; MORDUKHOVICH, M.I.; TSVANG, L.R.

Instruments for measuring temperature fluctuations and wind velocities, and instruments for the statistical analysis of measurements. Trudy Inst.fiz.atm. no.4:21-29 '62. (MIRA 15:12)
(Winds) (Atmospheric temperature) (Mensuration)

TSVANG, L.R.

Measurement of turbulent heat flows and temperature fluctuation spectra. Trudy Inst.fiz.atm. no.4:137-143 '62. (MIRA 15:12)
(Atmospheric turbulence) (Atmospheric temperature)

TSVANG, R.L.

Role of medical centers in the prevention of accidents in agriculture. Fel'd. i akush. 25 no.2:50-51 F '60. (MIRA 13:5)

1. Zaveduyushchiy sel'skim vrachebnym uchastkom sela Peresecheno Kryulyanskogo rayona, Moldavskoy SSR.
(AGRICULTURE--ACCIDENTS)

TSVANG, R.L. (selo Peresechino Kriulyanskogo rayona, Moldavskaya SSR).

Organization of surgical procedures at a feldsher-midwife center. Fel'd. i akush. 25 no.9:38-41 S '60. (MIRA 13:9)
(PUBLIC HEALTH, RURAL) (SURGICAL NURSING)

TSVANG, R.L.

Advanced surgical training of nurses in a rural district hospital. Med. sestra 19 no.1:25-27 Ja '60. (MIRA 13:5)

1. Zaveduyushchiy sel'skim vrachebnym uchastkom, selo Peresechino Kriulyanskogo rayona Moldavskoy SSR.
(PERESECHINO--NURSES AND NURSING--STUDY AND TEACHING)

TSVANG, R.L. (selo Peresechino Kriulyanskogo rayona Moldavskoy SSR)

Organization of oncological care at a feldsher-midwife center. Fel'd. i akush. 26 no.12:27-31 D '61. (MIRA 14:12)
(PERESECHINO (MOLDAVIA)--CANCER)

TSVANG, R.L.; BERLINSKIY, D.S.

Dispensary care of patients with surgical diseases in a rural medical center. Sov. zdrav. 21 no.3:15-18 no.3:15-18 '62. (MIRA 15:3)

1. Zaveduyushchiy Peresechinskim sel'skim vrachebnym uchastkom (for TSvang). 2. Glavnyy vrach Kriulyanskogo rayona Moldavskoy SSR (for Berlinskiy).

(DISPENSARIES)
(PUBLIC HEALTH, RURAL)

TSVANG, R.L.

Organization of [redacted] surgical aid [redacted] rural medical area.
Vest. Khir. 91 [redacted] 51-56 D '63. (MIRA 17:9)

1. Iz Sel'skogo vrachebnogo uchastka sela Peresechino Orgeyevskogo rayona Moldavskoy SSR. Adres avtora: Moldavskaya SSR, Orgeyevskiy rayon, selo Peresechino, bol'nitsa.

BERLINSKIY, D.S.; TSVANG, R.L.

District or sectional collective farm medical commission? Vrach. delo no.5:127 My '61. (MIRA 14:9)

1. Kriulyanskaya rayonnaya bol'nitsa i Peresechinskiy sel'skiy vrachebnyy uchastok Kriulyanskogo rayona Moldavskoy SSR.
(OLSHANA DISTRICT (KIROVOGRAD PROVINCE)--DISABILITY EVALUATIONS)

TSVANG, R.L.

Experience with the organization of oncological aid in rural medical centers. Vop. onk. 6 no.6:100-104 Je '60. (MIRA 14:3)
(ONCOLOGY) (MEDICINE, RURAL)

TSVANG, R.L.

Improving the surgical skills of sub-professional medical personnel at feldsher-midwife centers. Fel'd. i akush. 25 no.1:42-45 Ja '60. (MIRA 13:4)

1. Zaveduyushchiy sel'skim vrachebnym uchastkom (selo Peresecheno Kryulyanskogo rayona Moldavskoy SSR).
(KRYULYANY DISTRICT--MEDICINE--STUDY AND TEACHING)

TSVANG, R.L.

Some problems in the organization and operation of sanitary posts as the first link in the system of and in accidents. Sov. med. 25 no.8:99-102 Ag '61. (MIRA 15:1)

1. Iz kafedry gospital'noy khirurgii Kishinevskogo gosudarstvennogo meditsinskogo instituta (zav. - prof. P.V.Ryzhov) i sel'skogo vrachebnogo uchastka sela Peresechino (zav. - R.L.Tsvang) Kriulyanskogo rayona Moldavskoy SSR (glavnyy vrach D.S.Berlinskiy).
(PERESECHINO (MOLDAVIA)--FIRST AID IN ILLNESS AND INJURY)

TSVANG, R.L.

Dispensary service for elderly and senile surgical patients under the conditions of a rural medical district. Trudy Kish. gos.med.inst. 12:111-114 '60. (MIRA 16:4)

1. Peresechinskiy sel'skiy vrachebnyy uchastok i kafedra gospital'noy khirurgii Kishinevskogo gosudarstvennogo meditsinskogo instituta.

(GERIATRICS) (DISPENSARIES)

TSVANG, R.L.

Dispensary treatment for patients with surgical diseases in a rural medical center. Vest.khir. no.1:83-87'63. (MIRA 16:7)

1. Iz Beresechinskogo sel'skogo vrachebnogo uchastka Moldavskoy SSR.

(MEDICINE, RURAL) (SURGERY)

TSVANGER, L. G. Doc Cand Med Sci -- (diss) " ~~Day and night and all the~~ Round-the-clock and year-round medical treatment of children ~~sick~~ visited with osteoarticular tuberculosis, on the sea terrace of the Southern shore of Crimea." Len, 1956. 11 pp 23 cm. (Leningrad State Order of Lenin Inst ~~im S.M. Kirov for the Improvement of Profession~~ Advanced Training of Medical Doctors)

(KL, 21-57, 107)

TSVANGER, L.G.

Year-round therapy of osteoarticular tuberculosis on an open sea terrace in the southern Crimea. Ortop., travm. i protez. 18 no.1: 40-44 Ja-F '57. (MLRA 10:6)

1. Iz Detskogo sanatoriya im. prof. A.A.Bobrova v Alupke (glavnyy vrach - P.V.Izergin [deceased]) i Leningradskogo instituta khirurgicheskogo tuberkuleza (dir. - deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. P.G.Kornev).

(TUBERCULOSIS, OSTEOARTICULAR, ther. in inf. and child surg. & thalassother. in Crimea)

(THALASSOTHERAPY, in various dis. tuberc., osteoarticular in child. in Crimea)

L 26666-65 EWT(m)/EWP(e)/EWP(t)/T Pc-4/Pr-4 RM

[illegible] 1634-1636

[illegible] K. A. [illegible] N. N.

Vasil[illegible]

TITLE: Effect of conditions on the synthesis of phenyltrichlorosilane from silicon, chlorobenzene and hydrogen [illegible]

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 7, 1964, 1634-1636

TOPIC TAGS: phenyltrichlorosilane [illegible] fluidized bed reaction, reaction condition, reactant [illegible] pressure, reactant feed rate

ABSTRACT: This is a continuation of work reported by K. A. Andrianov, S. A. Golubtsov, N. N. Tishina and I. V. Trofimaova (ZhPKh, XXXII, 201 (1959)) [illegible] synthesis of phenyltr chloro- [illegible] chlorobenzene and hydrogen [illegible] (a) reactant ratio of HCl: C_6H_5Cl [illegible] gas flow rate [illegible]

Card 1/2

L 16654-65
ACCESSION NR: AP4046460

These studies showed that some of

Processes)

SUBMITTED: [illegible] ENCL: 00 SUB CODE: OC

NO REF SOV: 009 OTHER: 000

Card 2/2

S/064/63/000/001/002/007
B101/B186

AUTHORS: Turetskaya, R. A., Golubtsov, S. A., Andrianov, K. A., Tevanger, T. A., Prigozhin, B. Yu.

TITLE: Direct synthesis of ethyl chlorosilanes

PERIODICAL: Khimicheskaya promyshlennost', no. 1, 1963, 18 - 20

TEXT: A method of directly synthetizing ethyl chlorosilanes in a fluidized bed at 360 - 380°C, wherein ethyl chloride is caused to react with a copper-silicon alloy was described by these authors in a series of previous studies (DAN SSSR, 108, 465 (1956); ZhPKh, 35, 1496 (1962); Izv. AN SSSR, OKhN, no. 10, 1788 (1962); ibid. no. 1, 87 (1963)). For comparison, data of lab tests and experiments in a pilot plant with a reaction vessel (of 300 mm diameter and a charge capacity of 250 kg alloy) are given in the present paper. The above data were found to be consistent except for the ethyl chlorosilane yield per hr and kg of contact mass, this being 270 - 700 g in lab tests and 60 - 100 g in the pilot plant. The difference is due to the longer contact time (approximately 20 sec) in the pilot plant. The percentage of the resulting mixture of ethyl chlorosilanes is given in the following sequence: head fraction;

Card 1/3

Direct synthesis of ethyl ...

$C_2H_5SiHCl_2$; $C_2H_5SiCl_3$; $(C_2H_5)_2SiHCl$; $(C_2H_5)_2SiCl_2$, and residue. The data of lab tests in method A are the following, contact mass of Cu-Si alloy containing 20 % Si: 0, 27, 20, 7, 37, 9; method B, addition of 27 - 28 % by volume of H_2 during the experiment: 3, 41, 16, 11, 18, 10; method C, addition of 20 - 23.5 % by volume of HCl during the experiment: 11, 49, 16, 4, 16, 6; method D, addition of alloy during the experiment: 2, 51, 18, 5, 16, 8, and method E contact mass Cu-Si alloy containing 10 % Si an promoted by 0.003 % Sb: 0, 14, 13, 9, 56, 8. For the pilot plant experiments, these data are 3,22, 37, 0, 30, 8 for method A, 11, 42, 27, 0.13, 7 for method B, 3, 46, 27, 0, 17, 7 for method C, 3, 36, 30, 0, 20, 11 for method D, and 4, 20, 28, 0, 38, 10 for method E. The alloy promoted by Sb showed an increase in selectivity and in diethyl dichlorosilane yield, whereas the ethyl chloride consumption was 17 % lower. An HCl addition during the experiment inhibited considerably the formation of ethylene and ethane by dehydrochlorination of ethyl chloride. The synthesis of polyethyl siloxanes from ethyl chlorosilanes is compared with that from ethyl ethoxysilanes. In the first case, 3.2 t and in the second case 10.0 t of raw material is required per ton of liquid. The output of the apparatus per unit volume, calculated for $(C_2H_5)_2SiO$ is

Card 2/3

Direct synthesis of ethyl ...

70 g/hr·l in the first case and 2.4 g/hr·l in the second case. Further improvements are possible by increasing the yield of diethyl dichlorosilane and by complete inhibition of the formation of dehydrochlorination products. There are 2 figures and 4 tables.

Card 3/3

TURETSKAYA, R.A.; GOLUBTSOV, S.A.; ANDRIANOV, K.A.; TSVANGER, T.A.; PRIGOZHIN, B.Yu.

Direct synthesis of ethylchlorosilanes. Khim.prom. no.1:18-20 Ja '63. (MIRA 16:3)
(Silane)

VEYNBERG, Z.A.; TSVANKIN, D.Ya.

Relation of double refraction to the chemical composition of flax fibers. Zhur.prikl.khim. 29 no.5:801-802 My '56. (MLRA 9:8)

1. Kostromskoy tekstil'nyy institut.
(Refraction, Double) (Flax)

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~~24(4)~~

AUTHOR: Tsvankin, D.Ya. SOV/155-58-4-29/34

TITLE: The Angle Factor for Diffraction on Domains Consisting of Long Molecules (Uglovoy faktor pri difraktsii na oblastyakh sostoyashchikh iz dlinnykh molekul)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 4, pp 175 - 180 (USSR)

ABSTRACT: The X-ray diffraction on domains with long molecules was considered by the author in [Ref 1]. In the present paper there are discussed two questions: 1.) The angle factor of the X-ray dispersion for the case, that the domains form a texture, and 2.) Angle factor and intensity in the case, that the domains form an isotropic system. In both cases there are essentially discussed well-known results of Soviet scientists (A.I. Kitaygorodskiy) and of western scientists.
The author thanks Professor A.I. Kitaygorodskiy. There are 1 figure, and 5 references, 3 of which are Soviet, 1 German, and 1 American.

ASSOCIATION: Vsesoyuznyy zaochnyy institut tekstil'noy i legkoy promyshlennosti (All-Union Correspondence Institute of Textiles and Light Industry)

SUBMITTED: April 20, 1958

Card 1/1

TSVANKIN, D.Ya.

Approximate calculation of X-ray diffraction on polythene. Nauch. dokl.vys.shkoly; fiz.-mat.nauki no.5:167-171 '58. (MIRA 12:7)

1. Vsesoyuznyy zaochnyy institut tekstil'noy i legkoy promyshlennosti. (X rays--Diffraction)

TSVANKIN, D.Ya.

X-ray diffraction on regions consisting of long molecules. Dokl. AN SSSR 120 no. 5:1076-1079 Je '58. (MIRA 11:8)

1. Predstavleno akademikom V.A.Karginym.
(X-rays--Diffraction)
(Macromolecular compounds)

TSVANKIN, D. Ya. Cand Phys-Math Sci -- (diss) "X-Ray Diffraction on packs of chain molecules and the regular structure of cellulose." Len, 1959. 14 pp (Acad Sci USSR. Inst of High-Molecular Compounds). (KL, 49-59,137)

KITAYGORODSKIY, A.I.; TSVANKIN, D.Ya.

Structure of cellulose. Part 1. Vysokom.soed. 1 no.2:269-278 F '59. (MIRA 12:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Cellulose)

ACCESSION NR: AP4020716 S/0000/63/000/000/0267/0271

AUTHOR: Kazaryan, L. G.; Tsvankin, D. Ya.; Rogovina, L. Z.

TITLE: X-ray investigation of the crystal orientation in polypropylene films

SOURCE: Karbotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Carbon-chain macromolecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 267-271

TOPIC TAGS: X-ray diffraction, crystalline polymer, polypropylene, crystal orientation, polypropylene structure

ABSTRACT: In isotactic polypropylene films stretched to a small extent in the cold, part of the crystals are completely oriented and form an axial structure, while the other crystals form an isotropic system. In the present paper, the relation between the degree of orientation, temperature and amount and rate of stretching was determined for pressed polypropylene films having a mol. wt. of 36,000. A formula is derived for calculating the proportion of oriented crystals per unit volume (averaged for the 110 and 041 planes):

$$L = 1/(1 + 0.29\frac{Id}{Ir}) \quad (1)$$

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ACCESSION NR: AP4020716

where I_d and I_r are the integral intensities of the Debye ring and the reflex, respectively. The degree of orientation increased with increasing temperature (10-120C), increasing degree of stretching (up to 12-fold) and decreasing stretching rate (0.06-0.45 mm/sec.). By stretching at low temperatures, a mesomorphic structure is obtained, which is then crystallized. The nature of the orientation and the appearance of the mesomorphic structure can be explained by the assumption that melting and recrystallization of the crystals occur during stretching. "The authors express their gratitude to A. I. Kitaygorodskiy and G. L. Slonimskiy for their interest in this work and many valuable suggestions." Orig. art. has: 3 figures and 4 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organometallic Compounds, AN SSSR)

SUBMITTED: 26Jul62 DATE ACQ: 20Mar64 ENCL: 00

SUB CODE: OC, MT NO REF SOV: 003 OTHER: 004

Card 2/2

BELAVTSEVA, Ye.M.; PETROV, Yu.M.; TSVANKIN, D.Ya.

Structure of cellulose treated with phosphotungstic acid. Vysokom. soed. 6 no.4:684-690 Ap '64. (MIRA 17:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

S/0190/63/005/007/0976/0978

ACCESSION NR: AP3003785

AUTHORS: Kazaryan, L. G.; Tsvankin, D. Ya.

TITLE: X-ray study of degree of orientation

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 7, 1963, 976-978

TOPIC TAGS: oriented polymer, oriented crystal, x ray diagram, integral intensity, scattered beam, texture axis

ABSTRACT: Formulas are obtained for calculating the degree of orientation in partially oriented polymers by using integral intensities of reflexes from x-ray diagrams. n_{or} is defined as the general number of oriented crystals and n_{nor}, the nonoriented crystals. The integral intensity of either reflex hkl is given by

$$I = \frac{e^4\lambda^3}{m^2c^4V^2} \cdot I_0 F^2_{hkl} \Phi \cdot p \cdot \delta V,$$

where I_0 - intensity of incident beam, F - a structure factor, Φ - integration

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